Memorandum

U.S. Department
of Transportation

**Federal Railroad
Administration**

Date: June 15, 1998 Reply to Att. of: MP&E 98-3

Subject: Locomotive Auxiliary Lights - Questions and Answers

From: Edward R. English
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To: Regional Administrators, Deputy Regional Administrators,
Motive Power & Equipment Specialists and Inspectors

On December 31, 1997, the *Locomotive Visibility; Minimum Standards for Auxiliary Lights,* Final Rule, 49 CFR 229.125 became effective. We have received several inquiries concerning the application and inspection requirements of these devices, as well as issues involving enroute failures. The purpose of this bulletin is to answer questions and provide guidance for uniform application and enforcement of this new requirement.

Question: When does a locomotive have to be equipped with auxiliary lights?

Each lead locomotive that operates over one or more public grade crossings at a speed greater than 20 miles per hour, shall be equipped with operative auxiliary lights on the forward end of the locomotive as it approaches a public high-way grade crossing.

Question: What is a public highway-rail crossing as it applies to auxiliary lights?

It is the location where railroad tracks intersect a roadway which is part of the general system of public streets and highways, and is under the jurisdiction of and maintained by a public authority and open to the general travelling public.

Question: What are auxiliary lights?

Auxiliary lights are two white lights producing at least 200,000 candela that are located on the front of the locomotive to form a triangle with the locomotive headlight. They must be mounted at least 36 inches above the top of the rail, except on MU locomotives and control cab locomotives where such placement would be impractical. On such MU locomotives and cab control locomotives, the lights shall be mounted at least 24 inches above the top of the rail. Other

mounting and focusing requirements are listed in §229.125(d). There are other arrangements that are "grandfathered" to satisfy auxiliary light requirements.

Question: What are the grandfathered arrangements?

The following arrangements were temporarily "grandfathered" to satisfy the auxiliary light requirements until March 6, 2000, provided that they were on the locomotives by March 6, 1996:

- Ditch Lights
- Strobe Lights
- Crossing Lights
- Oscillating Lights

The regulation has a "super-grandfathering" provision for the following light arrangements:

- Oscillating Lights installed on newly-acquired equipment ordered prior to January 1, 1996, satisfies the auxiliary light requirements for the life of the locomotive.

- Strobe Lights that qualified for the regular "grandfathering" provision, will satisfy the auxiliary light requirements until the locomotive is either retired or rebuilt (which ever comes first), but the speed of the locomotive will be restricted to 40 miles per hour when used as a lead locomotive. *This becomes effective March 6, 2000.*

- Two white auxiliary lights spaced at least 44 inches apart on at least one axis, and that were installed on a locomotive prior to May 30, 1994, satisfies the auxiliary light requirements until the locomotive is either rebuilt or retired, whichever comes first. *This is the headlight arrangement commonly used in commuter service.*

Question: Do auxiliary lights have to work when a calendar day inspection is performed?

Yes. Auxiliary lights are treated the same as headlights when calendar day inspections are performed.

Question: When do the auxiliary lights have to be illuminated?

Auxiliary lights must remain continuously illuminated immediately prior to and during movement of the locomotive, except as provided by railroad operating rules, timetables, or special instructions. This not only increases conspicuity at

public high-way grade crossings, but also addresses private crossings, pedestrians, and roadway workers.

Question: Are there circumstances where the lights can be legally extinguished?

Yes. The regulations permit railroads to designate specific locations where auxiliary lights can be extinguished, as long as these designated locations are identified in either the railroad's operating rules, timetable, or special written instructions. This would typically be at locations where existing operating rules require the headlight to be dimmed, such as: at stations; when passing another train; in yards where switching is performed; or at locations where train operations parallel a public highway and the night vision of motorists would be impaired by the use of auxiliary lights. Any exception from use of auxiliary lights at specific locations are subject to disapproval by FRA's Associate Administrator for Safety, or one of FRA's Regional Administrators, after investigation and opportunity for response by the railroad, for good cause stated.

Question: Do the lights have to flash on approaching a crossing?

The lights may burn steadily or flash (pulse) on approach and while passing over a public high-way grade crossing.

Question: Can a train be dispatched from initial terminal without auxiliary lights on the lead locomotive?

If the lead locomotive is <u>not</u> equipped with auxiliary lights, the train can be dispatched out of an initial terminal, with the understanding that the locomotive cannot operate over any public high-way grade crossing at a speed greater than 20 miles per hour.

Otherwise, if the lead locomotive <u>is equipped</u> with auxiliary lights, <u>all</u> must be functioning on the end of the locomotive in the forward direction of the train movement.

Question: Can the train leave initial terminal with one light defective on the lead locomotive?

No, all auxiliary lights must be working on the lead locomotive in the forward direction of the train movement.

Question: What about enroute failures?

If <u>one</u> light becomes defective enroute, the locomotive can continue to operate in the lead at track speed, but the defective light must be repaired no later than the next calendar day. This locomotive could not be used in the lead position out of

an initial terminal unless repairs were made.

If two lights become defective enroute, the locomotive (train) may only proceed to the next location where repairs can be made and the locomotive is restricted to 20 miles per hour or less over all public high-way grade crossings until the lights are functioning.

Question: If the mechanism that causes the oscillating light to oscillate is defective, how should this condition be treated?

This would be treated as a complete failure of the auxiliary light. It could not be dispatched from an initial terminal as a lead unit, and if the failure occurred enroute, it would have to be repaired at the next point where repairs could be made with the locomotive restricted to 20 miles per hour over all public high-way grade crossings.

Question: Are locomotives that operate in both directions (dual-control) required to be equipped with auxiliary lights on each end of the locomotive?

These types of locomotives should be equipped on each end, since they frequently operate as a lead in both directions. However, if a locomotive is equipped with auxiliary lights on only one end, then it could only be dispatched out of an initial terminal as the lead unit, if the equipped end is placed in the forward direction of the train movement. If during the trip this same locomotive made a reverse move as a lead unit, it would be restricted to 20 miles per hour over all public high-way grade crossings.

Question: When a speed restriction at a public high-way grade crossing is required, does this mean the whole train is restricted to 20 miles per hour over the crossing?

No, just the lead locomotive is restricted to 20 miles per hour over the crossing.

Question: Are steam locomotives required to be equipped with auxiliary lights?

No. Also, any locomotive built before December 31, 1948, that not used in commuter or inter-city passenger service is excepted from auxiliary light requirements.

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